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Fish & Richardson P.C.
500 Arguello Street
Suite 500
Redwood City, CA 94063-1526

650 839 5070 main
650 839 5071 fax

Jonathan J. Lamberson
Principal
Lamberson@fr.com
650 839 5076 direct

VIA E-MAIL

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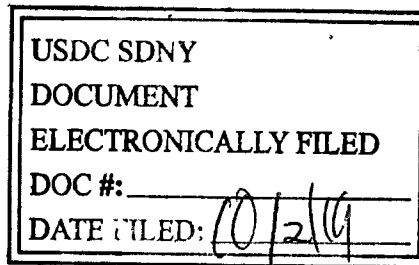
Hon. Jed S. Rakoff
United States District Judge
Daniel Patrick Moynihan
United States Courthouse
500 Pearl St.
New York, NY 10007-1312

Re: *SIMO Holdings Inc. v. Hong Kong uCloudlink Network Technology Ltd. & uCloudlink (America), Ltd.*, Case No. 18-cv-5427-JSR (SDNY)

Dear Judge Rakoff:

Pursuant to the Court's instruction during the telephonic conference held yesterday, Defendants uCloudlink Network Technology Ltd. and uCloudlink (America), Ltd. (collectively, "uCloudlink") respectfully submit this letter brief requesting that the Court clarify that its injunction does not prevent uCloudlink from selling redesigned products that cannot infringe the '689 patent or, to the extent necessary, that the Court modify its injunction so that non-infringing products are not covered. As discussed in detail below, uCloudlink has adopted a redesign so that its accused devices always use the **same** cellular network for retrieving the cloud SIM from the uCloudlink back-end server and for general Internet connectivity using the cloud SIM. This Court's prior orders were clear that the '689 patent claims require using two **different** networks to satisfy the claim limitation "wherein the data communication link is **distinct** from the local cellular communication network." Because use of the **same** network does not infringe, the Court should clarify that any uCloudlink products that use such a design are not subject to the Court's injunction. Alternatively, to the extent the Court deems it necessary, uCloudlink respectfully request that the injunction be modified so that it does not cover the sale or use of products that do not and cannot infringe the '689 patent.

A. An Injunction Should Not Cover Non-Infringing Activity

35 U.S.C. § 283 gives this Court the power to "grant injunctions in accordance with the principles of equity **to prevent the violation of any right secured by patent,** on such terms as the court deems reasonable." "In accordance with the clear wording of this section, an injunction is only proper to the extent it is to prevent the violation of any right secured by patent. … [J]udicial restraint of lawful noninfringing activities must be avoided." *See Johns Hopkins Univ. v. Cellpro, Inc.,* 152 F.3d 1342, 1365-66 (Fed. Cir. 1998).

"[T]he incentive to 'design around' patents is a positive result of the patent system. … One of the benefits of a patent system is its so-called 'negative incentive' to 'design around' a competitor's

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products, even when they are patented, thus bringing a steady flow of innovations to the marketplace. It should not be discouraged..." *See Yarway Corp. v. Eur-Control USA, Inc.*, 775 F.2d 268, 277 (Fed. Cir. 1985).

Notably, "Section 283 does not provide remedies for past infringement; it only provides for injunctive relief to prevent future infringement." *Johns Hopkins*, 152 F.3d at 1367. "An injunction for infringement may not be punitive." *See Joy Techs., Inc. v. Flakt, Inc.,* 6 F.3d 770, 773 (Fed. Cir. 1993).

B. The Court's Prior Orders Were Clear That the Accused Devices Only Infringe When they Can Access Different Networks

Claim 8 of the '689 patent requires, among other limitations, "establishing a local authentication information request in response to a local authentication request by a local cellular communication network, wherein the local authentication information request comprises information regarding the local authentication request for local authentication information received by the foreign wireless communication client or the extension unit from the local cellular communication network, and **wherein the data communication link is distinct from the local cellular communication network.**" [D.I. 20-2, Claim 8 (emphasis added).] This Court construed the bolded limitation during claim construction to mean "the data communication link is not using the local cellular communication network." [D.I. 64 at 27.]

During summary judgment, Plaintiff SIMO Holdings Inc. ("SIMO") argued that "there are separate 'local cellular communication networks' operated by different cellular carriers in the United States (AT&T, Verizon, etc.)." [D.I. 163 at 25.] The Court noted that "the dispute regarding this limitation is whether the local cellular network is carrier-specific [as SIMO argued] or whether there is only one network in a given area, with multiple carriers operating on it," as uCloudlink proposed. [*Id.*] The Court resolved this dispute in SIMO's favor, finding that the "local wireless communication network" is, "in the terminology of the patent, carrier-specific." [*Id.* at 26.] In reaching its conclusion, the Court noted that "the patent explicitly associates a 'local wireless communication network with a particular carrier." [*Id.* at 25] The Court concluded that "[i]t would make little sense...to interpret 'local cellular communication network' to be carrier-agnostic." [*Id.* at 26.][1]

In finding that uCloudlink's accused devices infringed upon this limitation, the Court explained that "to meet this limitation, it must be the case that the local cellular network used by the seed SIM is **different** from the local cellular network used by the Cloud SIM." [*Id.* at 28 (emphasis added).] It found that the accused products will "sometimes, but not always" use different networks. [*Id.*]

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[1] The "distinct" limitation was added to the claims via amendment during prosecution and was used repeatedly to distinguish the claims from the prior art.

Specifically, the Court found that there were occasions where in the accused products, the "seed SIM and Cloud SIM might connect to different service providers." [*Id.*] "For example, the seed SIM might connect (on a roaming basis) to AT&T's network, while the Cloud SIM is subscribed to, and connects to, Verizon's. In that scenario, the relevant 'local cellular communication network' – i.e. the one that sent the local authentication request to the Cloud SIM – is Verizon's, and because the data communication link – established by the seed SIM using AT&T's network – is distinct from Verizon's network, the claim limitation is satisfied." [*Id.*] Because "the Accused Products meet this limitation at least some of the time," the Court found that they infringed claim 8. [*Id.*]

C. The Redesigned Products Can Only Use the <u>Same</u> Network for Retrieving the Cloud SIM and for General Connectivity Using the Cloud SIM

Following the Court's summary judgment decision, on April 16, 2019, uCloudlink began redesigning its accused products, the GlocalMe G2, G3, and U2 Series WiFi hotspot devices and the SQ mobile phone (the "Accused Devices"). At a high level, the redesign works by forcing any Accused Devices operating in the United States to use the **same** cellular network both for retrieving the cloud SIM from the uCloudlink backend server and for general Internet connectivity using the cloud SIM. Thus devices operating in the United States never have a data communication link that is "distinct from" the local cellular communication network.

The G2, G3 and U2 devices contain a physical seed SIM from Vodafone. The S1 devices contain a software seed SIM from JT. A physical seed SIM is a conventional, tangible SIM card that is made with electrical contacts and semiconductors. A software seed SIM is like a SIM "file" stored in memory that is equivalent to a physical SIM without having to store a physical SIM card in the device.

The Accused Devices use the seed SIM to roam on a local cellular network (such as AT&T or T-Mobile) to establish a connection with uCloudlink's backend servers. That connection is used to obtain a cloud SIM from the backend servers. The cloud SIM is used by the device for general Internet connectivity (connectivity purchased by the customer in the form of data increments, like 1GB, 3GB, etc.).

uCloudlink's backend servers are connected to a bank of SIMs, each of which can be allocated to only a single user at a given time. The SIMs at the back-end servers can be either physical SIM cards or software SIMs. In either case, the backend server creates an "image" of this remote SIM that is transmitted digitally to the end-user device. This "image" contains sufficient information to permit the device to start an authentication procedure with a local cellular network as if the cloud SIM was actually housed in the end-user device. Each cloud SIM is associated with a cellular provider, such as AT&T or T-Mobile.

The redesign software makes note of which network the seed SIM used to request the cloud SIM. For example, if the device connected to an AT&T network (on a roaming basis, using the Vodafone seed SIM in the device) to request the cloud SIM, the redesigned back-end server will note this, and will only send a SIM card to the end-user device that is compatible with the AT&T network. The redesign software on the end-user device forces the device to only connect to the **same** network (in this example, AT&T) that it used to obtain the cloud SIM. If for some reason the device cannot connect to that network, the device does **not** attempt to connect to a different network. Instead, the device will request a new SIM card from the back-end server. The device will repeat this process, trying different SIM cards until it finds one that is able to connect to the same network that was used to obtain the cloud SIM (here, AT&T). In the unlikely event that no cloud SIM can be found that allows the device to connect to the same local network, the device is rendered inoperable and has no connectivity.

The redesign is implemented via updated software instructions that are sent to end-user devices via an over-the-air software update. Once the accused devices receive this new software, they will only attempt to connect using the **same** network that was used to obtain the cloud SIM. The devices will not attempt to connect using different networks, so they can never satisfy the "distinct" limitation in the '689 patent.

Additionally, and in order to fully comply with the Court's injunction, on September 1, 2019, uCloudlink modified its back-end servers such that they will only send a cloud SIM to Accused Devices that have received and installed the redesign software. If a device has not been upgraded, and if it attempts to connect to uCloudlink's back-end servers, it cannot authenticate and cannot obtain a cloud SIM. Without a cloud SIM, the device cannot communicate with the local cellular network (meaning it also cannot communicate with different networks, and so cannot satisfy the "distinct" limitation).

The redesign software is pre-installed on all Accused Devices currently under manufacture. All devices currently in use have either been upgraded via an over-the-air push of the redesign software, or have been rendered inoperable. All future versions of the accused products will use the redesigned software.

In order to confirm that the redesign was operating as intended, uCloudlink took snapshots of which networks its devices were connecting to within the United States. The below table shows an example snapshot, taken shortly after uCloudlink changed its back-end servers to disable access by non-redesigned products on September 1:

	September 1, 2019				
Seed SIM U.S. Network	Number of Seed SIMs Using Network	Cloud SIM Using Same Network as Seed SIM	Ratio	Cloud SIM Using Different Network from Seed SIM	Ratio
AT&T	2694	2694	100%	0	0%
Cellular One	6	6	100%	0	0%
Choice Wireless	49	49	100%	0	0%
GCI Wireless	11	11	100%	0	0%
T-Mobile	806	806	100%	0	0%
Union Wireless	74	74	100%	0	0%
Verizon	N/A	N/A	N/A	N/A	N/A

As can be seen in this table, the end-user devices are now connecting to the same network both for obtaining the cloud SIM and for general connectivity 100% of the time. No instances were captured where an end-user device used two different networks. This confirms that the redesign is working as intended, and that there was no detected infringement of the '689 patent. A snapshot taken a few days later showed the same result.

uCloudlink has prepared a declaration from Dr. Zhihui Gong that confirms all of the foregoing facts, and has given that declaration to SIMO. uCloudlink can provide this declaration and additional supporting evidence to the Court upon request.

D. Responses to the Court's Questions in its Post Trial Order

In its post-trial order, the Court expressed doubts about the redesign, stating "the Cloud SIM in the Infringing Devices is always a virtual (or software SIM), dispatched from the uCloudlink's backend servers. This distinguishes it from the 'seed SIM,' which can be physical or virtual. Dr. Gong does not explain how a 'physical Cloud SIM' would work, or how it is assigned to the upgraded devices." [D.I. 264 at 35.] As explained above, the SIM cards stored at the back-end servers can be either physical SIM cards or software SIMs. In either scenario, however, only an "image" of the SIM card is sent to the end-user device. The redesign does not change this process. The only change is that

the system now tracks which network was used to obtain the cloud SIM image, and the redesign software makes sure that the same network is used for general connectivity.

The Court also stated that it was unclear how a physical SIM card could be "pushed via software update." [*Id.*] As explained above, no physical SIM cards are pushed by the redesign. The redesign is a software update that changes the instructions in the end-user device such that it will no longer attempt to connect to a network distinct from the one it used to obtain the cloud SIM. For example, if the Vodafone seed SIM roams on the T-Mobile network to obtain the cloud SIM, the redesign software in the end-user device will use that same T-Mobile network for general connectivity. If the Vodafone seed SIM instead roams on the Choice Wireless network to obtain the cloud SIM, the device will use Choice Wireless for general connectivity. In this way, the redesign software ensures that it will never satisfy the "distinct" limitation in the '689 patent.

The Court also asked how the seed SIM could connect to a network affiliated with a uCloudlink cloud SIM. [*Id.* at 35.] As explained above, the seed SIM will always roam on a U.S. network to obtain a cloud SIM. It must do so because Vodafone and JT do not operate networks within the United States. As shown in the table above, the Vodafone or JT seed SIM will connect to a U.S. carrier such as AT&T, T-Mobile, Cellular One, etc., on a roaming basis to obtain a cloud SIM. The redesigned devices will then use the cloud SIM to connect to that same carrier's network, and will not attempt to connect to a different network.

Finally, the Court expressed confusion over the various "modes" described in the original Gong declaration. [*Id.* at 36.] This section of Dr. Gong's declaration was admittedly confusing. This confusion was caused by the fact that there is a second and distinct non-infringement argument available for certain devices that obtain an image from a software SIM (rather than an image from a hardware SIM). For the sake of simplicity, however, uCloudlink is not addressing this separate non-infringement argument here.[2] Regardless of whether additional non-infringement arguments exist, all Accused Devices can no longer satisfy the "distinct" limitation, for the reasons described above.

E. uCloudlink Has Given Evidence Regarding its Redesign to SIMO

uCloudlink wants to be fully transparent about its redesign, and wants to avoid any infringement of SIMO's patent. On August 15th, before the Court entered its injunction, uCloudlink made the source code for its redesign available for inspection. uCloudlink engaged in a telephonic meet and confer with SIMO regarding the redesign on August 30th, and answered various follow-up questions via e-mail that same day, and again on September 2nd. uCloudlink gave SIMO a more detailed declaration from Dr. Gong on September 10th, along with technical documents describing the redesign.

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[2] In the event that SIMO later challenges the redesign devices, uCloudlink will raise all of its non-infringement arguments at that time.

uCloudlink followed up on September 18th to see if SIMO had any further questions or concerns about the redesign. uCloudlink is also in the process of preparing an expert report that discusses the technical operation of the redesign.

Throughout this entire process, SIMO has never suggested that using the **same** network for obtaining the cloud SIM and for general Internet connectivity infringes the '689 patent. SIMO has never suggested that there is some flaw in or problem with uCloudlink's proposed redesign. SIMO has never suggested uCloudlink did not do what it says it has done. SIMO has not filed any motion for contempt, even though it knows that uCloudlink has been selling its redesigned products.

F. The Court Should Clarify that its Injunction Does Not Block the Sale or Use of Non-Infringing Products

This Court's post-trial order was clear that it was blocking the sale and use of "Infringing Devices." [D.I. 264 at 51.] uCloudlink understood the order to bar selling devices that were either configured as they were when the Court found infringement via summary judgment, or devices that were not more than colorably different from those adjudged-infringing devices. *See nCUBE Corp. v. SeaChange Int'l Inc.*, 732 F.3d 1346, 1349 (Fed. Cir. 2013) (discussing the "colorably different" standard). uCloudlink did not and does not believe that the Court intended to block the sale or use of redesigned products that cannot infringe the '689 patent.

SIMO for its part does not appear to argue that the '689 patent covers implementations that use the same network for retrieving the cloud SIM and for general connectivity.[3] Instead, SIMO has argued that because the Court's injunction order defines ""Accused Devices" by model number, that must mean the redesign products are covered by the language of the injunction. This interpretation is nonsensical. SIMO's reading suggests that if uCloudlink simply changed the name of its Accused Devices, even without redesigning them, they would no longer be covered by the injunction. That cannot be a correct interpretation of the Court's order.

SIMO also suggests that the Court has already rejected uCloudlink's arguments regarding the redesign. uCloudlink does not read the Court's post-trial order in that manner. The order expressed questions and even doubts about how the redesign operated, but nothing in that order foreclosed the possibility that if uCloudlink could render its products non-infringing, it could continue selling them. uCloudlink has given additional information regarding the redesign in this letter—information that it hopes will help the Court better understand the operation of the redesign, and how it avoids

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[3] If SIMO makes such an argument in its responsive letter, that would contradict its own prior arguments to this Court on summary judgment that the "distinct" limitation was carrier-specific—arguments SIMO won, and that led to the finding of infringement.

infringing the '689 patent. uCloudlink can give the Court additional information and evidence to confirm this operation, if that would be helpful.

At the end of the day, what SIMO seeks is not protection of its own property—what it seeks is to extend its monopoly to different designs that are not covered by its patent. That is improper, and it would discourage the very innovation that the patent system is support to promote—namely, innovation that results from avoiding a competitor's patent.

The Court should clarify that its injunction does not cover devices that are more than colorably different from those found to infringe. It should further clarify that an implementation that uses the same network for both retrieving the cloud SIM and for general connectivity is more than colorably different from the infringing devices. "[I]n determining whether more than colorable differences are present the court focuses on those elements of the adjudged infringing products that the patentee previously contended, and proved, satisfy specific limitations of the asserted claims. ... Where one or more of those elements previously found to infringe has been modified, or removed, the court must make an inquiry into whether that modification is significant." *Id.* Here, SIMO previously argued that its claims were met when uCloudlink devices connected to two different carriers (such as using AT&T to obtain the cloud SIM and Verizon for general connectivity). [*See* D.I. 163 at 25.] The Court agreed with this argument, and found infringement because the accused products "sometimes, but not always" used different networks. [*Id.* at 28.] Now, these products have been modified such that they can never use different networks. The Court should find this is a colorable difference that is not covered by its injunction.

G. To the Extent Necessary, the Court Should Modify its Injunction To Allow the Sale of Non-Infringing Products

While uCloudlink believes that the scope of the Court's original injunction is sufficiently clear, to the extent the Court believes otherwise, uCloudlink respectfully requests that the Court modify its injunction to carve out from its scope the sale or use of devices that cannot infringe the '689 patent.
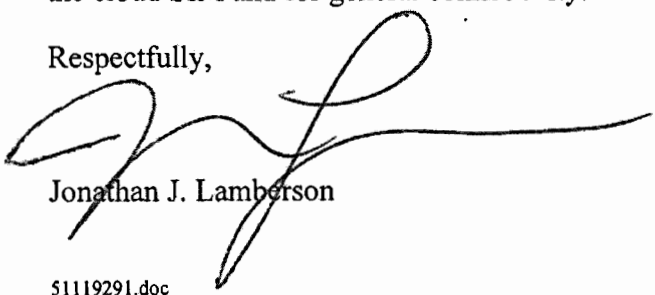
An injunction in a patent case must contain "specific terms and a reasonably detailed description of the acts sought to be restrained." *See Int'l Rectifier Corp. v. IXYS Corp.*, 383 F.3d 1312, 1316 (Fed. Cir. 2004). If an injunction "fail[s] to state which acts constituted infringement or to expressly limit its prohibition to the manufacture, use, or sale of the specific device found to infringe, or devices no more than colorably different from the infringing device," then the injunction fails to satisfy the definiteness requirements set forth in Rule 65(d) of the Federal Rules of Civil Procedure and must be modified or set aside. *See Id.* "[A] district court has broad equitable authority to modify its own injunction prospectively." *See Retractable Techs., Inc. v. Becton Dickinson & Co.*, 757 F.3d 1366, 1373 (Fed. Cir. 2014).

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Here, there is apparently no dispute that products that fail to meet the "distinct" limitation cannot infringe the '689 patent. The only dispute is whether the Court's order should cover such devices. SIMO provides no valid reason why it should. Thus to the extent the Court deems it necessary, the Court should modify its injunction so that it only covers infringing devices that use "distinct" networks and not non-infringing devices that can only connect using the same network for retrieving the cloud SIM and for general connectivity.

Respectfully,

Jonathan J. Lamberson

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